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NEW FORMATS OF SOCIAL DESIGN OF URBAN SPACES

Abstract. The article discusses the issues of social design of the urban environment created with the active participation of residents. It is shown how the perception of the famous cities' sights is determined not only by the visual aesthetics of architectural buildings, but also by the organization of sociocultural recognition, walking routes, saturated with social and cultural events. Examples of the social role of light technologies' usage are given, augmented reality tools (AR) are considered as an essential part of the sociotechnical design of urban spaces. The goals of modern research areas are outlined, the purpose of which is to create a rich informational and interesting social environment.The directions of development of social design in the urban environment are determined.

Key woords: urban space, social design, augmented reality, lighting, information

Introduction.According to the historical logic of the urban communities' development, places concentrating various social groups were formed into cities. Today, large cities concentrate advanced technologies and technical innovations, taking into account the social needs of urban residents. A theory of the creative development of cities is based on the "three T: technology, talent, tolerance" concept. These conditions are considered the basis for the growth and attractiveness of modern cities [1].

The concept of the sustainable urban development has created new trend of "social design technology", which is based on activities modernizing the urban environment, taking into account the human factor. The main aim is to developthe social processes in the city by the residents themselves. Public associations have formedinto Centers of Applied Urban Studies, which included various groups of residents, even from different cities. A brief but capacious slogan has been put forward on the community website [2]: "The urban environment primarily represents the result of the activity or inactivity of urban entities (administration, business, activists, residents)".

Different urban centers may vary in their diverse goals but all of them are supported by the activityof residents in their desire to make the city convenient for living.

Current situation is that the specialists responsible for the concept of an urban development created city master plans in the form of urban planning schemes based on combinations of the buildings and the spaces between them. Filling the engineering structure of the city, square meters of pavements, sidewalks, public places and landscape zones are installed. In the legislative documents on urban planning, the living area of the district, human flows and the placement of the necessary urban elements that are important for citizens remain outside the scope of the main technical and economic indicators [3].

The practice of a social approach in an urban concept. The examples of the public spaces' improvement in various cities around the world have raised the question ofsocial interactions' importance. People want to enjoy the modernized streets and squares as well as have fun. It is also necessary to consider an important component of the modern society life such as information content. That is why reading plant species' descriptions has become an element of entertainment on the 7017 Seoullo Skygarden (Korea). Modern city dwellers require not only technical and aesthetic modernization of spaces but also improvement of their emotional and cognitive experience.

From a social point of view, a modern city is a complex of urban communities using a system of functionally interconnected urban spaces. For example, walking around the city has always been an importantsocial need of residents and visitors. In order to feel the soul of the city each person seeks to find his own route. K. Lynch called this phenomenon "reading of urban space": "Between the positive values of a readable environment – emotional satisfaction, a framework for communication andconcept creation can be listed" [4]. The quality of the urban environment is determined by the interaction, redundancy and diversity of the formation of sustainable, long-term consumer preferences. It is necessary to take into account the nature of various social phenomena, psychological aspects of behavior [5].

The modernization of public spaces has revealed certain trends in the rapidly developing methodology of social designof public and residential spaces. This refers to the formation of a complex social communicational system based on the involvement, discussion, brainstorming through communication and joint creativity in working groups.

In order to develop the appropriate concept of the urbansocial design it is necessary to obtain a data on the features of the city development.The most effective way to display sociological information is to create a model containing information about the urban environment. For these purposes, light projection methods should be used along with augmented reality (AR) technologies. Another important thing is the preparation of information modeling databases using gadgets and specialized software.

AR technology has great potential for the development of the social and informational content of urban spaces, confirming the well-known proverb that “it’s better to see something once than to hear about it a thousand times”. This technology helps to understand and compare the information to make decisions and carry out the necessary actions. AR converts large amounts of data and analytics into images or animations, introducing them into the real world [6]. Augmented reality is actively used to “revive” paintings, for the informative accompaniment of expositions in museums, major cultural and exhibition centers.

AR providesa unique identity in the perception of the digital and physical worlds. It becomes a visual tool for the formation of social events and experiments. For example, we can recall a “flash mob”, invented by the Center for Applied Urban Studies [2]. The main goal was to create a symbolic bookcase in different areas of the city using augmented reality technologies to spread ideas and to transmit virtual 3D models.

Understanding the processes taking place in an urban environment can be achieved by creating an interactive 3d-map of the concentration of social activity. A multi-level large model of social mapping of the city will be useful for design engineers, administrators and active residents [5]. Information obtained using this technology facilitates navigation both in urban spaces and inside buildings. Residents, tourists and guests can launch their gadgets and see the entire route with explanations.

Social technologies are useful for a better understandingof the architectural, landscape and urban quality of projects [7].They will provide feedback from active target groups in the form of online surveys *(figure 1)*, public reviews,etc.

Social processes in the urban environment are also associated with creative urbanism, which is responsible for organizing environmental events and festivals. It is supposed to involvecreative professionals, representatives of social and cultural movements, design teams in the development of urban cultural and public spaces.

Digital 3d spaces have added the aspect of "immersion" in the art industry. The concept of immersion is understood as the effect of interactive presence in an artificially created three-dimensional world.Modern theater, cinema, painting, graphics, sculpture, music are already inconceivable without the use of computer graphics, media technologies, lighting, laser, holographic and other technical devices. The art works with sound, light, smell, tactile sensations, creating new aesthetic communications accessible to citizens in the form of digital installations, performances and other manifestations.

Many creative companies, such as Total Management, Samskara are professionals in immersive designsolutions for entertainment and hospitality, travel, event and lifestyle management [8, 9]. When developing digital projects, these companies use highly qualified graphics created by computer artists, animators, mathematicians, engineers, architects. The most important result they get is an active interaction with the audience *(figure 2)*.

Employees of the Tessart media center (St. Petersburg, Russian Federation), Eventum Premo agency (Moscow, Russian Federation) with the participation of artists and programmers, developed the immersive content for exhibition halls, virtual reality halls andlaser theaters with panoramic projections[10,11]. The media center creates a space of art and immersive technology. Visitors can become part of a new reality, gaining a unique experience in interactive creativity *(figure 3)*.

The musician Serge Filatov works in the field of fine art and sound [12, 13]. His project "Omniauris" is a performance with a spatial sound. Project's concept is based on the idea of developing acoustic perception, which implies a conscious concentration on real-time sound effects. Attention is focused not only on the familiar sounds of natural and urban environments but also on micro-sounds barely audible *(figure 4)*.

The main creative theme of the artist-photographer Philippe Echaroux (France) has a beautiful aesthetic and social subtext, reflecting the idea of human influence on the ecology of natural systems. He came up with a media project called “A World First” [14]. The idea was to project portraits of ordinary citizens onto trees using light projection technologies (video mapping). In addition tothe landscape, P. Echaroux uses flat vertical surfaces in the city, installs a projector and starts a slide show for passers-by (figure 5).

Conclusion. The given examples of urban spaces using artistic and lighting technologies representthe process of social saturation of the city. Light, projection and AR technologies are used to create a visually changing dynamic environment. Modern people require the active attraction and retention of attention on bright, rich and diverse shows, able to unite viewers with a common emotional empathy.

Instead of improving the specific and local urban space, modernized social routes should appear. The concept should be based on the idea of connectingdifferentsymbolic places of the city, unitedby meaning and content. The formation of walking routes based on points of attraction using light technologies and augmented reality allows creating a socially attractive environment.

Objective, material and subjective data should be systematized in the form of an information digital map of the social space of the city, which will help determine the criteria and directions of social, economic and cultural development.

The appearance of attractive social urban sites, significant objects with local features, the widespread restoration of monuments, the modernization of unattractive and abandoned courtyards, territories, and parks will determine the fact of successful social design. These measures will ensure a social “reset” of public spaces and improve the quality of urban life.

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Şəhər məkanlarının ictimai layihələşdirilməsinin yeni formatları

Məqalədə əhalinin iştirakı ilə şəhər mühitinin ictimai layihələşdirilməsi problemləri nəzərdən keçirilir. Göstərilir ki, dünyanın məşhur şəhərlərinin məziyyətlərinin qavranılması yalnız memarlıq tikintisinin estetikasından deyil, həm də, sosial hadisələr və mədəni tədbirlərlə zəngin olan gəzinti marşrutlarının ictimai-mədəni cəhətdən tanınmasının təşkilindən asılıdır. Məqsədi informasiya cəhətdən maraqlı sosial mühitin yaradılması olan müasir tədqiqat istiqamətləri göstərilir. İnformasiya və işıq texnologiyalarından istifadə nümunələri şəhər məkanlarının ictimai-texniki layihələşdirilməsinin tərkib hissəsi kimi təkmilləşdirilmiş gerçəklik (AR) vasitələrinin nümunələri gətirilir. Şəhər mühitində ictimai layihələşmə istiqamətlərinin tətbiqi inkişafının vektorları verilmişdir

Açar sözlər: şəhər məkanı, ictimai layihələşdirmə, təkmilləşdirilmiş gerçəklik (AR), məlumatlılıq, işıq texnologiyaları

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Новые форматы социального проектирования городских пространств

В статье рассматриваются вопросы социального проектирования городской среды с участием жителей. Показано, как восприятие достоинств знаменитых городов мира обусловливается не только визуальной эстетикой архитектурной застройки, но и за счет организации социально-культурной узнаваемости, прогулочных маршрутов, насыщенных социальными событиями и культурными мероприятиями. Обозначены современные исследовательские направления, целью которых является создание информационно насыщенной, интересной социальной среды. Приводятся примеры использования информационных и световых технологий, инструментов дополненной реальности (AR) как составной части социотехнического проектирования городских пространств. Заданы векторы прикладного развития направления социального проектирования в городской среде.

Ключевые слова: городское пространство, социальное проектирование, дополненная реальность (AR), информативность, световые технологии

Figure captions:

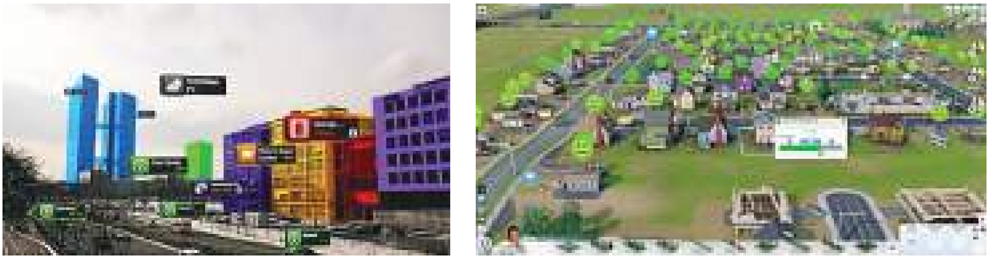

Figure 1. a) Computer graphics with selection of objects and alphanumeric signatures, b) 3d model of residents’ tolerance [7]

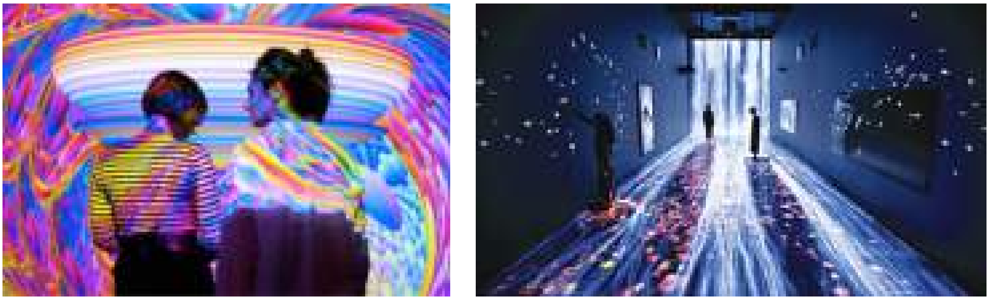

Figure 2. Immersive exhibitions and installations: a) Samskara (artist Andrew Jones) [8], b) Crossing the Borders of TeamLab (engineer Toshiyuki Inoko) [9]

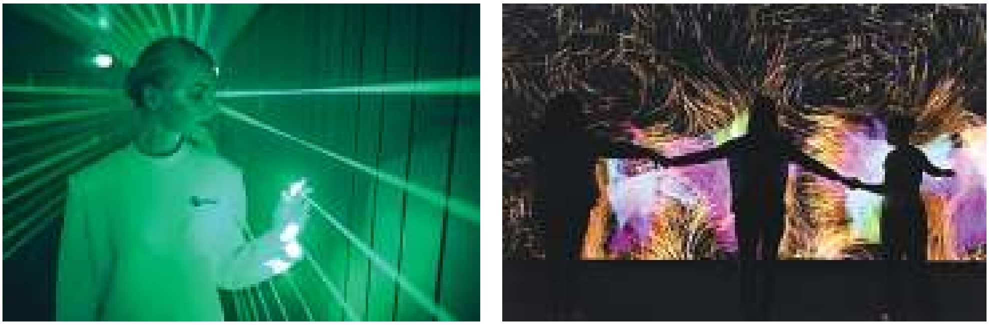

Figure 3. a) Night Flight Show vol. 2 created by Eventum Premo agency [10]; b) Suspended Particles Performance, Tessart Media Center [11].

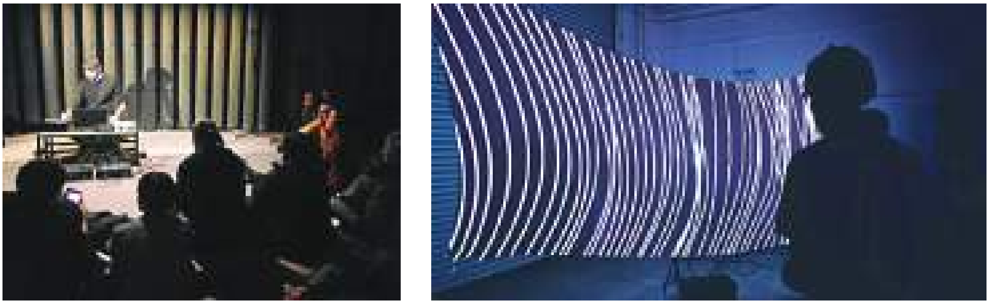

Figure 4. a) Sound performances by S. Filatov [12]. b) Interactive projection “Strands” uses strands of light rays that are sensitive to movements, Next Art (Los Angeles) [13]

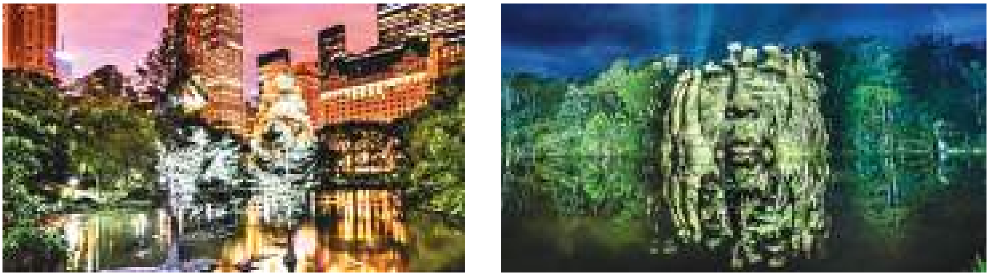

Fig. 5. Light installations in the urban environment Echaroux P. [14]